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Filed: October 8, 2004  
TC Art Unit: 3736  
Confirmation No.: 8760

REMARKS

Claims 1-70 are pending. Claims 1-70 stand rejected under 35 U.S.C. §103(a). Claims 1 and 39 have been amended. No new matter has been added. The Applicants respectfully traverse the grounds for rejection and requests withdrawal thereof.

SECTION 103(a) REJECTIONS

Claims 1-4, 14-19, 21-37, 39-41, 46, 47, 49-66, and 68-70 stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent Number 6,063,046 to Allum ("Allum") in view of U.S. Patent Number 5,979,067 to Waters ("Waters"); claims 5-10, 20, 42-45, and 48 stand rejected under 35 U.S.C. 103(a) as unpatentable over Allum and Waters, further in view of U.S. Patent Number 6,174,294 to Crabb, et al.; claims 11-13 stand rejected under 35 U.S.C. 103(a) as unpatentable over Allum and Waters, further in view of U.S. Patent Application Publication Number 2002/0055779 to Andrews; and claims 38 and 67 stand rejected under 35 U.S.C. 103(a) as unpatentable over Allum and Waters, further in view of U.S. Patent Number 4,745,930 to Confer. The Applicants respectfully traverse the grounds for rejection for the following reasons.

Claims 1-4, 14-19, 21-37, 39-41, 46, 47, 49-66, and 68-70

Independent claims 1 and 39 have been amended to recite "a plurality of sensors for detecting balance information during standing and gait, wherein said plurality of sensors is configured

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WEINGARTEN, SCHURGIN,  
GAGNEBIN & LEDOVICI LLP  
TEL. (617) 542-2290  
FAX. (617) 451-0313

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in a portable layer for wearing against a user's foot during standing and gait by placement under at least one foot of a user to avoid Allum.

The Examiner concedes that "Allum does not specifically disclose the ability to analyze and collect balance information during gait", asserting, however, that Waters "discloses a device and related method for measuring foot posture" and, more particularly, "Waters teaches manipulating either foot through pronation and supination positions to simulate gait, while collecting information regarding the foot posture and its effects during the simulated walking motions." The Applicants respectfully disagree.

The Waters reference discloses "a method and device for the measurement of the posture of a foot" for constructing an orthotic that forces the foot into the subtalar neutral position. U.S. Patent Number 5,979,067, col. 2, lines 52-53. The device includes a non-portable, split-surface platform for each foot and the method includes manually adjusting the horizontal angle of the rear and front plates until the foot or feet is/are in the subtalar neutral position. See, e.g., Id., col. 5, line 65 to col. 6, line 42.

Mention in the Waters reference of manipulating a foot through pronation and supination is limited to a discussion of a physical therapist determining the subtalar neutral position of the foot using his or her thumb and finger. See, e.g., Id., col. 1, lines 19-28. The Waters reference does not mention taking

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measurements during gait or that the disclosed methodology "simulates gait" as suggested by the Examiner.

Independent claims 1 and 39 recite that the system detects balance information "during standing and gait". Moreover, said plurality of sensors is configured in a portable layer for wearing against a user's foot bottom during standing and gait by placement under at least one foot of a user". Even if Waters discloses "simulating gait" (which it does not), a system that takes measurements "during gait" is not anticipated by or made obvious by one that merely takes measurements "during simulated gait". Thus, neither Allum nor Waters teaches, mentions or suggests a portable system for assisting the maintenance of balance that provides balance information while the subject is standing or in gait.

Additionally, like the Allum reference, the Waters device is stationary and not "configured for wearing in a portable layer by placement against a user's foot bottom during standing and gait under at least one foot of a user."

Accordingly, the Applicants respectfully assert that claims 1 and 39 and all claims depending therefrom are not made obvious by Allum in view of Waters and are in condition for allowance.

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Claims 5-10, 20, 42-45, and 48

The shortcomings of the Allum and Waters references have been discussed above. Nor can the Crabb reference make up for the deficiencies of the Allum and Waters references.

As provided in our first response, Crabb lacks the stimulation function and, more specifically, the body surface part stimulation of the invention as claimed.

Claims 11-13

The shortcomings of the Allum and Waters references have been discussed above. Nor can any of the Andrews reference make up for the deficiencies of the Allum and Waters references. As provided in our first response, Andrews provides a system to block neural activities, an "electrical nerve block for clinical use" such as to reduce spacticity and the like. Since Applicants' electrical signals are applied as a stimulus, the teaching of Andrews is completely opposite. Furthermore, Andrews would not be looked to by those skilled in the art for suggestions for use in a system operating to achieve a completely opposite goal. Andrews fails to disclose a skin inserted stimulating signal.

Claims 38 and 67

The shortcomings of the Allum and Waters references have been discussed above. Nor can the Confer references make up for the deficiencies of the Allum and Waters references. Confer teaches a

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sensor system and not a combined sensor and stimulator system so adds nothing beyond Allum and/or Waters. Thus, one skilled in the art would not look to Confer for suggestions on a stimulator system for maintaining balance. More particularly claims 38 and 67 do not require the stimulation be at least in part a function of ankle angle. This is nowhere taught or suggested in Confer, Allum or Waters.

Accordingly, the Applicants respectfully assert that claims 5-13, 20, 38, 42-45, and 48, and 67 are not obvious and by Allum and Waters, further in view of Crabb, Andrews and/or Confer and are in condition for allowance.

The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

LARS I.E. ODDSSON ET AL.

By: 

Charles L. Gagnebin III  
Registration No. 25,467  
Attorney for Applicant(s)

WEINGARTEN, SCHURGIN,  
GAGNEBIN & LEOVICI LLP  
Ten Post Office Square  
Boston, MA 02109  
Telephone: (617) 542-2290  
Telecopier: (617) 451-0313

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WEINGARTEN, SCHURGIN,  
GAGNEBIN & LEOVICI LLP  
TEL. (617) 542-2290  
FAX. (617) 451-0313